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AUTHOR	Coyle-Williams, Maureen
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ABSTRACT

Educational reform efforts have thus far excluded vocational education. Recently, there has been a great deal of interest in reevaluating vocational education's role in facilitating academic excellence and economic competitiveness. Inadequate basic skills remain a significant and growing problem. There is a direct relationship between basic skills and the economic well-being of individuals, families, and businesses as well as the country. A better understanding of what basic skills employers want appears necessary to identifying which skills students should be learning in school. The following benefits of integrating academic and vocational education have been observed: increased quality of vocational instruction; increased quality of academic instruction; upgraded curriculum; improved "coherence" in sequencing of 4-year programs of study; improved integration and increased understanding between academic and vocational teachers; decreased segregation of academic and vocational students; and increased enthusiasm of teachers for teaching and students for learning. There is no one model for integrating academic and vocational course work that can or should be considered the best approach for all students or all schools. Care must be taken so that large groups of students, especially those most at risk of academic and economic failure, are not excluded from such efforts. (15 references) (CML)

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NCRVE

National Center for Research in Vocational Education

University of California, Berkeley

TASPP BRIEF

Technical Assistance for Special Populations Program

Volume 2 Number 1

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IMPROVING OUTCOMES FOR STUDENTS WITH SPECIAL NEEDS: INTEGRATING ACADEMIC AND VOCATIONAL EDUCATION

Recent research indicates a need to expand educational reform efforts beyond the college bound population and implement measures to increase basic skill adequacy. Efforts to integrate academic and vocational curricula represent a significant means of improving the post-school outcomes of all students. This BRIEF highlights issues which are critical to improving the academic and economic competitiveness of youth at risk. The potential of an integrated vocational and academic curriculum in achieving these ends is considered.

"...there is a great deal of concern that the academic excellence movement has failed to target those most at risk of academic and economic failure."

Over the past 10 years, almost every state in the country has increased high school graduation requirements in response to the call for "educational excellence" (Clune, White, & Patterson, 1989). Spurred by concerns over the economic competitiveness of the United States relative to other countries, the educational reform movement is currently under fire. Researchers and policymakers have begun to question whether increased academic requirements have impacted the educational or economic status of youth. Thus far, *there has been no evidence of a correlation between increased high school credits and significant economic gains* (Tuma & Gifford, 1990). Additionally, there is a great deal of concern that the "academic excellence" movement has failed to target those most at risk of academic and economic failure (Adelman, 1989; Barton, 1990; Berlin & Sum, 1988; Silberman, 1990; Smith & Lincoln, 1988; William T. Grant Foundation Commission on Work, Family & Citizenship, 1988).

While research on the impact of increased academic requirements is limited, available data indicate the following:

- Achievement levels remain low for the majority of students (Adelman, 1989).
- Non-college bound students continue to complete fewer credits than students with college plans (Tuma & Gifford, 1990).

Additionally, college and non-college bound students tend to differ in the *level* of additional coursework they are taking (Tuma & Gifford, 1990).

- Increases in the average number of mathematics and science credits completed by non-college bound high school graduates have been in basic or general level courses.
- Increases in the number of advanced math and science credits have occurred only among the college bound.

Reform efforts have thus far excluded vocational education (Pepple, Law, & Valdes, 1990). Recently, however, there has been a great deal of interest in reevaluating vocational education's role in facilitating academic excellence and economic competitiveness (Adelman, 1989; Barton, 1990; Benson, 1989; Bottoms, 1989; William T. Grant Foundation Commission of Work, Family, and Citizenship, 1988).

Redefining the Path to Educational Excellence

Increase Basic Skill Adequacy

After a decade of educational reform, inadequate basic skills remain a significant and growing problem. In examining the basic skills crisis, Berlin and Sum

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(1988) have pointed to *a direct relationship between basic skills and the economic well being of individuals, families, and businesses as well as the country.* These researchers point out that poor basic skills form a barrier to economic self-sufficiency and function as an underlying cause of such social problems as unemployment, dropping out, teen parenting, welfare dependency, and the decline in work-force productivity growth. In seeking educational and economic competitiveness *for all people*, educational reformers must focus on increasing basic skills. Both the U.S. Department of Education and the U.S. Department of Labor (1988) have called for measures to eliminate basic skill inadequacy.

Match What Students Learn to What Employers Need

In redefining the path to educational excellence, a better understanding of what basic skills employers want appears necessary to identifying which skills students should be learning in school. Recent research indicates that the skills taught in school are different from those required in work settings (U.S. Department of Education & U.S. Department of Labor, 1988). Employers report serious deficiencies in reading, writing, mathematic, interpersonal, problem-solving, and personal management skills (Carnevale, Gainer, & Meltzer, 1989; Owens & McClure, 1989).

Critics of educational reform policy point out that its focus has been too narrow to achieve either educational excellence or an increase in the competitiveness of the U.S. Labor force. The value of reforms which add *more of the same* academic course requirements to curriculum without improving teaching methods is considered suspect (Adelman, 1989; Benson, 1989; William T. Grant Foundation Commission on Work, Family, and Citizenship, 1988). In testifying before the Senate Subcommittee on Education, Arts, and the Humanities, NCRVE Director Charles Benson (1989) pointed out that standard approaches to teaching do not accomodate differences in learning style.

"If the objective of educational reform is to produce a more competitive workforce and to provide students with the means to succeed in the labor market, we need to target our reforms to those who are most likely to be economically disenfranchised, not those who are already most likely to succeed." (Tuma & Gifford,1990, p. 20)

> We now have in this country an extraordinarily diverse secondary school population. We can also understand that young people in inner cities and in pockets of rural poverty have sufficient distraction, on the one hand, and sufficiently depressing situations to confront, on the other, that only the strongest teacher can maintain the interest and commitment of his or her students, armed only with blackboard, chalk, lecture, and textbook. The material for learning is too unfamiliar in its meaning and too remote from the life one sees as a student to carry meaning. (p. 7)

Integrating Academics and Vocational Education

Large scale reform of vocational education is currently being advocated as a means of achieving more widespread academic and economic competitiveness. In seeking general improvements in secondary vocational education and increased access of special populations to quality vocational education, the National Assessment of Vocational Education recently called for integrated academic and vocational curriculum as a means of achieving the following objectives (Wirt, Muraskin, Goodwin, & Meyer, 1989):

- Ensuring that students come to vocational programs well-equipped with fundamental academic skills.
- Providing an applied context that reinforces and enhances academic skills and motivates students to excel in both academic and vocational courses.

The potential impact of integrated vocational and academic education is considered significant. In evaluating efforts to integrate academic and vocational education, the National Center for Research in Vocational Education, University of California, Berkeley, has examined the impact that such reforms may have after several years. The following benefits have been observed (Benson, 1989):

Benefits of Integrating Academic and Vocational Education

- *Increased quality of vocational instruction* through greater use of academic material and of applied academic courses.
- *Increased quality of academic instruction* through increased use of applications and problem-oriented approaches to teaching.

- *Upgraded curriculum* through the replacement of diluted academic (general courses) with more rigorous applied academic courses.
- *Improved "coherence" in the sequencing of four year programs of study* as a result of vocational teachers, academic teachers, and counselors cooperatively defining such sequences.
- *Improved integration and increased understanding between academic and vocational teachers* as a result of working together on new curricula.
- *Decreased segregation of academic and vocational students* through the development of courses and programs which eliminate the divisions between academic and vocational subjects.
- *Increased enthusiasm of teachers for teaching and students for learning.*

While there is currently a great deal of interest in models for integrating academic and vocational coursework, *there is no one model that could or should be considered the best approach for all students or all schools.* Rather, there are a variety of approaches.

Successful practices for integrating academic and vocational education may be grouped by the scope of the effort. The Northwest Regional Education Laboratory has identified successful practices which occur in the following five categories: in a single class, between two classes, across school, beyond the school, and at the state level (Owens & McClure, 1989).

Continuum of Integration Stages

The National Center for Research in Vocational Education is in the process of evaluating a number of efforts to integrate academic and vocational education. Researchers Norton Grubb and Jane Plihal have conceptualized a five-stage integration continuum (Benson, 1989).

Stage 1: Requiring more academic coursework of vocational students, or establishing academic prerequisites before taking vocational sequences.

Stage 2: Including or reinforcing academic skills in existing vocational courses. This can be done either by including basic skills modules, taught either by vocational or academic teachers, or by including modules on problem solving, critical thinking skills, and other higher-order abilities.

Stage 3: Using the "applied academic" curricula developed by the Center for Occupational Research and Development (CORD) and the Alliance for Instructional Technology (AIT), or other available curriculum packages. These curricula may be used by:

Academic teachers to teach lower tracks of vocational students

Vocational teachers with vocational students

Vocational and academic teachers together

Vocational and academic teachers together, with both academic and vocational students

Local teachers with substantial modifications of "applied academics" courses to local conditions

Stage 4: Using locally designed new curricula in any of the following ways:

Parallel Teaching: Academic and vocational teachers teach about the same issues simultaneously.

Joint Teaching: Academic and vocational teachers jointly develop and teach new courses that merge related subjects into a new subject.

Redesigning the Curriculum: Joint teaching of courses which incorporate vocational and academic material.

Stage 5: Integrating the entire high school: Specialized high schools which prepare students for college and provide them with high grade job skills at the same time.

Policy Recommendations

Integrated vocational and academic curricula promise educational and social benefits for both college and non-college bound students. However, if vocational education is to contribute to the reform movement, then educators and policymakers must exercise caution. Adelman (1989) observed a tendency of such efforts to focus on "new generation" or "high tech" vocational programs to the exclusion of more traditional programs. She warns that excluding "low tech" programs from reform efforts will limit their effectiveness in reaching the non-college bound student. *Large groups of students should not be excluded, especially those most at risk of academic and economic failure.*

As integrated curricula represent a means of meeting the needs of the workplace as well as the goals of the reform movement, federal and state policy should prioritize research and development efforts in this area. Large scale,

integrated curricula will require much more significant school reforms than those which occurred during the 1980s. Consequently, the "movement" to integrate academic and vocational education will require resources, leadership, direction, and time (Adelman, 1989). Moreover, future research and development efforts must address the current lack of well-established models of integration. Such programs should employ appropriate instruments for student assessment as well as rigorous program evaluation plans since the credibility of these efforts will depend on their outcomes.

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University of California, Berkeley
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Technical Assistance for Special Populations Program (TASPP)
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Address all comments, questions, requests for additional copies to:
Dr. Carolyn Maddy-Bernstein, TASPP Director
345 Education Building, 1310 South Sixth Street
Champaign, IL 61820 (217) 333-0807

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National Center for Research in Vocational Education
University of California, Berkeley

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